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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/023,864	12/21/2001	Raghvendra G. Savoor	P21504	5695

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EXAMINER	
UBILES, MARIE C	

ART UNIT	PAPER NUMBER
2642	6

DATE MAILED: 04/23/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/023,864	SAVOOR ET AL.	
	Examiner	Art Unit	
	Marie C. Ubiles	2642	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *21 December 2001*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-21* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-2, 4-9, 10-11, 13, 14-18 and 21-22* is/are rejected.

7)☒ Claim(s) *3,12 and 20* is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date *4, 5*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

Claims 1-2, 4-9, 10-11, 13, 14-19 and 21-22 are rejected under 35 U.S.C. 103(a) as being unpatentable over Nolting (US 6,282,267) in view of Gopal et al. (US 4,748,658).

As for claim 1, Nolting discloses a system and method capable of analyzing traffic on the Public Switched Telephone Network and identifying individual high usage lines (i.e. community of interest) contributing to network blockage (i.e. identifying misrouting of traffic in a telecommunications network)(*See Background Art, Col. 4, lines 52-58*); an ISP 122 (i.e. community of interest) connected to an end office EO 112

connected to an end office EO 110 via a direct trunk 114 and also thru tandem switch 116 (i.e. the community of interest comprising at least one intermediate switching location connected to a first terminal switching location connected by a direct trunk to a second terminal switching location)(*See Figure and Best Mode, Col 10, line 46-Col 11, line 6*); a site processor 148 collects call records (*call terminating or originating, total carrier elapsed time, date and time the call began, etc.*) and this data is then aggregated into periodic reports, when the data is assembled, it is processed an compressed into flat files for each ISP (i.e. a community of interest) containing: for a certain time period, the number of calls attempted during that hour and each NPA NXX XXXX that called the ISP (i.e. identifying a community of interest based on call signaling data)(*See Best Mode, Col. 13, lines 34-67*), referring to Fig. 8, a site processor 326-328 connected to the card cages 324 (*See Best Mode, Col. 16, lines 60-63*), shows an architecture suitable for monitoring and analyzing the performance of a tandem switch (i.e. intermediate switching location), such as tandem 116 (*See Best Mode, Col. 16, lines 33-35*) (i.e. determining whether traffic in the community of interest passes through a switch in the community of interest during a predetermined time period).

While, the monitoring of traffic related to a community of interest going through the tandem switch at predetermined time periods is not directly discussed by Nolting; it would have been obvious to one of ordinary skill in the art to combine the embodiments of Figures 1 and 8 in order to provide means for identifying the community of interest and determining whether traffic in the community of interest passes through the at least one tandem switch (i.e. tandem 116) during a predetermined time period.

It can be seen that Nolting lacks the limitations of determining whether the direct trunk experienced an overflow condition during the predetermined time period; when traffic in the community of interest is determined to have passed through the at least one intermediate switching location during the predetermined time period, and the direct trunk is determined not to have experienced an overflow condition during the predetermined time period, designating an identifier associated with the traffic that passed through the at least one intermediate switching location as misrouted traffic.

Gopal et al. teach "The call set up used by the processor 70 may be understood as follows. In setting up a call, this algorithm first checks all of the possible routes at the same time, finds the most promising one to target, and then attempts to allocate the route. [...] network resources are more efficiently utilized when calls are carried over a direct route between the originating and terminating switching offices, as compared to multi-hop routes involving intermediate switching offices, as multi-hop calls have the potential to block a number of direct routes in the future." (*See Detailed Description, Col. 5, lines 43-48*).

Gopal et al. further teach "...it may be desirable to alter the outcome of the targeting decision in order to give higher "priority" to direct routes." (*See Detailed Description, Col. 6, lines 59-61*).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Nolting by further adding means for checking at the same time all possible routes for a call, to give a higher "priority" to direct routes and to avoid multi-hop routes (i.e. traffic passing through the at least one intermediate switching

location), as taught by Gopal et al., to provide ways for the system to compare traffic conditions in both the direct and tandem trunks (as read on 'check all possible routes') and give a "higher" priority to a direct route if such route is available; in this manner by avoiding the use of tandem offices (as read on 'multi hop routes involving intermediate switching') the potential of blocking direct routes is diminished.

As taught by Nolting, a report is given on each NPA NXX XXXX that called the ISP, so it would have been obvious to one of ordinary skill to use such information to identify calls that are being routed through a route with a "lower priority".

As for claim 2, it would have been obvious to one of ordinary skill in the art at the time the invention was made to redirect the misrouted traffic through the direct trunk after flagging such traffic as 'misrouted'. This can be read on "...network resources are more efficiently utilized when calls are carried over a direct route between the originating and terminating switching offices, as compared to multi-hop routes involving intermediate switching offices, as multi-hop calls have the potential to block a number of direct routes in the future", as taught by Gopal et al.

As for claim 19, Nolting discloses a system and method capable of analyzing traffic on the Public Switched Telephone Network and identifying individual high usage lines (i.e. community of interest) contributing to network blockage (i.e. a system for

identifying misrouting of traffic in a community of interest of a public switched telephone network PSTN)(*See Background Art, Col. 4, lines 52-58*); an ISP 122 (i.e. community of interest) connected to an end office EO 112 connected to an end office EO 110 via a direct trunk 114 and also thru tandem switch 116 (i.e. the community of interest comprising at least one tandem switch connected to a first end office switch connected by a direct trunk to a second end office switch)(*See Figure and Best Mode, Col 10, line 46-Col 11, line 6*); card cages 154 (i.e. a SS7 data collection device) set up to monitor SS7 relevant messages off (*busy, no answer, completed calls*) passing through A links into the end office switch 112 links for calls which are directed to the number for the ISP (i.e. a signaling system 7 (SS7) data collection device, configured to receive out-of-band signaling data from the PSTN)(*See Best Mode, Col. 13, lines 24-33*); a site processor 148 collects call records (*call terminating or originating, total carrier elapsed time, date and time the call began, etc.*) and this data is then aggregated into periodic reports, when the data is assembled, it is processed an compressed into flat files for each ISP containing: for a certain time period, the number of calls attempted during that hour and each NPA NXX XXXX that called the ISP (See Best Mode, Col. 13, lines 34-67), referring to Fig. 8, a site processor 326-328 (i.e. an application server) connected to the card cages 324 (i.e. an application server connected to the data collection device)(*See Best Mode, Col. 16, lines 60-63*), shows an architecture suitable for monitoring an analyzing the performance of a tandem switch, such as tandem 116 (*See Best Mode, Col. 16, lines 33-35*) (i.e. the application server identifying the community of interest and determining whether traffic in the community of interest passes through a switch in the

community of interest during a predetermined time period, based on the out-of-band signaling data provided by the data collection device).

While, the monitoring of traffic related to a community of interest going through the tandem switch at predetermined time periods is not directly discussed by Nolting; it would have been obvious to one of ordinary skill in the art to combine the embodiments of Figures 1 and 8 in order to provide means for identifying the community of interest and determining whether traffic in the community of interest passes through the at least one tandem switch (i.e. tandem 116) during a predetermined time period.

It can be seen that Nolting lacks the limitations of when traffic in the community of interest is determined to have passed through the at least one tandem switch, the application server further determining whether the direct trunk experienced an overflow condition during the predetermined time period; and when the direct trunk did not experience an overflow condition during the predetermined time period, the application server designating at least one exchange code associated with the traffic that passed through the at least one tandem switch as a misrouted code.

Gopal et al. teach "The call set up used by the processor 70 may be understood as follows. In setting up a call, this algorithm first checks all of the possible routes at the same time, finds the most promising one to target, and then attempts to allocate the route. [...] network resources are more efficiently utilized when calls are carried over a direct route between the originating and terminating switching offices, as compared to multi-hop routes involving intermediate switching offices, as multi-hop calls have the

potential to block a number of direct routes in the future." (*See Detailed Description, Col. 5, lines 43-48*).

Gopal et al. further teach "...it may be desirable to alter the outcome of the targeting decision in order to give higher "priority" to direct routes." (*See Detailed Description, Col. 6, lines 59-61*).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Nolting by further adding means for checking at the same time all possible routes for a call, to give a higher "priority" to direct routes and to avoid multi-hop routes (i.e. traffic going through the tandem switch), as taught by Gopal et al., to provide ways for the system to compare traffic conditions in both the direct and tandem trunks (as read on 'check all possible routes') and give a "higher" priority to a direct route if such route is available; in this manner by avoiding the use of tandem offices (as read on 'multi hop routes involving intermediate switching') the potential of blocking direct routes is diminished.

As taught by Nolting, a report is given on each NPA NXX XXXX that called the ISP, so it would have been obvious to one of ordinary skill to use such information to identify calls that are being routed through a route with a "lower priority.

Nolting also teaches that the data provided by the SS7 messaging (i.e. information relating to a community of interest) will be written in html format file for display using a Web Browser (i.e. graphical user interface)(*See Best Mode, Col 14, lines 16-24*)(i.e. wherein the application server, together with an associated database, is

configured to provide information relating to at least the community of interest, the tandem switch and the misrouted code to at least one graphical user interface). It would have been obvious to one of ordinary skill in the art to use the Web Browser, as taught by Nolting; and thus provide the user with ways to display the data generated by the community of interest, the tandem switch and the misrouted code.

As for claims 6-7, note that the limitation "class four switch" and "class five switches" can be read on "tandem switch" and "end offices", respectively, as disclosed by Nolting.

Claims 4-9, 10-11, 13, 14-18 and 21-22 are rejected for the same reasons as claim 19.

Allowable Subject Matter

2. Claims 3, 12 and 20 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Conclusion

3. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Szybicki et al. (US 4,284,852) teach alternate routing for a telephone system.

Langlois et al. (US 5,295,183) teach a congestion control system for telecommunications.

Pitchford et al. (US 5,844,981) teach a method and system that reduces incidences of blocked calls.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Marie C. Ubiles whose telephone number is (703) 305-0684. The examiner can normally be reached on 8am-5pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Ahmad Matar can be reached on (703) 305-4731. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Marie C. Ubiles
April 17, 2004.

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